F.H.BRUNDLE

WHOLESALE DISTRIBUTORS SINCE 1889

TUBE CLAMPS AND HANDRAIL

Technical Catalogue

TUBE CLAMPS & TUBE

TUBE CLAMPS – EASY TO USE

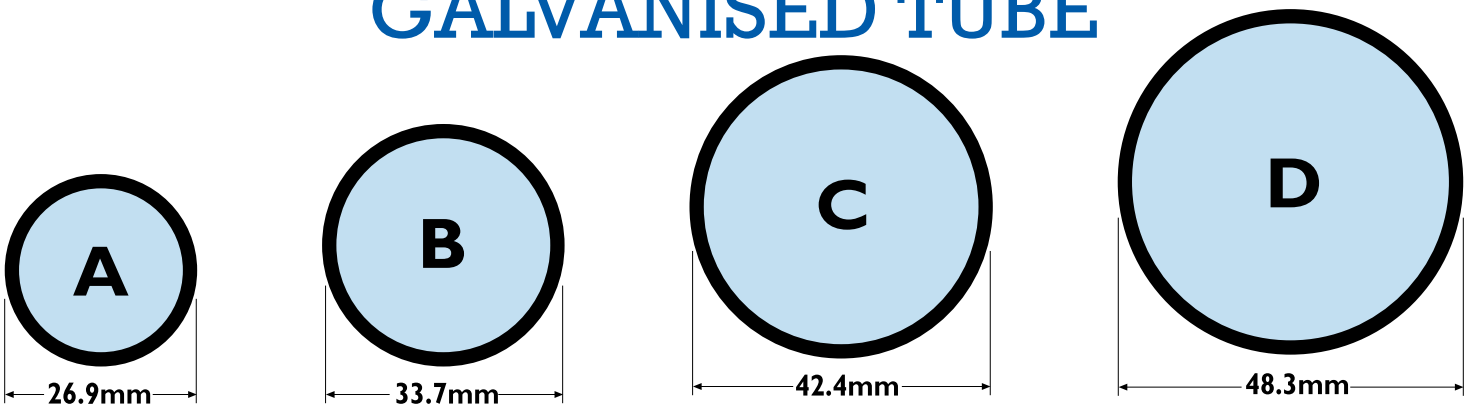
Tube Clamp fittings are manufactured with simplicity and ease of use very much in mind. No special skills are required - no welding, no bending, no threading, just an Allen key to tighten the set screws and you can join tubing together in a matter of seconds. The comprehensive range of fittings and sizes means Tube Clamps can be used in a wide variety of applications, temporary or permanent. For example in the construction of –

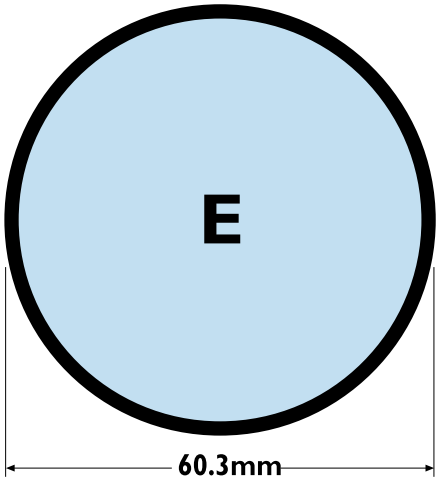
- Handrails
- Safety Barriers
- Awnings & Carports
- Support Structures
- Children's Play Equipment
- Market Stalls
- Exhibition Stands
- Temporary Buildings
- Lighting Grids
- Pallet or Garment Racking

TUBE – EASY TO ORDER

As with the fittings we've also made ordering simple. Each illustration in this manual carries a number - for example 16101. Look under the type column and you will see that this fitting is available in five different sizes ABCDE. Each of these letters refers to the size of the tube on which the fitting is to be used as indicated below. No letter after the fitting number indicates that size is not available at the time of printing. For example 16191 is only available to suit size D tubing.

GALVANISED TUBE





LENGTHS OF GALVANISED TUBE STOCKED					
Type	**Size**	**1.075m**	**1.45m**	**3.0m**	**6.5m**
A	26.9mm (1.1/16")	N/A	N/A	N/A	160225
B	33.7mm (1.11/32")	1602341075	N/A	16023430	160234
C	42.4mm (1.11/16")	1602421075	N/A	16024230	160242
D	48.3mm (1.29/32")	1602481075	1602481450	16024830	160248
E	60.3mm (2.3/8")	N/A	N/A	N/A	160260
Special lengths cut to order					

Splice Lock - For Joining Tube
42.4mm - **Code: 16177C**
48.3mm - **Code: 16177D**

NOTE: The standard finish is hot-dipped galvanised to BSENISO1461
Tube Clamps can also be supplied, to order, polyester powder coated, in a range of colours.

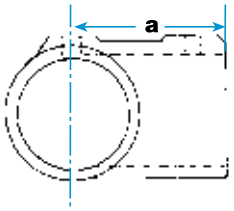
CONTENTS

2	Tube Sizes
4 - 13	Fittings
14 - 16	DDA Handrailing for the Disabled
17	Handrail Slope Fittings
18	Construction of an Inline Guardrail
19	How to Calculate Correct Tube Length
20	Base and Wall Plates, Weather Flange, Gate Hinges
21 - 22	Roof Edge Protection
23	Tubular Handrail Standards
24	Adjustarail
25 - 26	Warmagrip
27	Pro-Railing

The main cover photograph and the one above are of Guernsey harbour.

TUBE CLAMPS

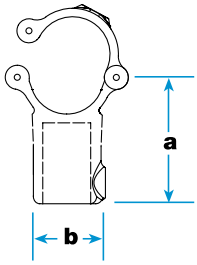
16101 : SHORT TEE



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16101A	26.9	40						0.19
16101B	33.7	48						0.32
16101C	42.4	60						0.44
16101D	48.3	67						0.52
16101E	60.3	86						0.78

Typically used on straight and level guardrail to connect the upright to the top rail or the end or mid rail to the upright. Tubes cannot be joined inside a 16101; to join tubes inside the fitting use a 16104. Normally used in conjunction with the 16119 fitting when building two rail guardrail.

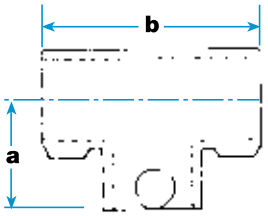
16A101 : ADD ON SHORT TEE



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16A101C	42.4	60	55					0.60
16A101D	48.3	68	60					0.71

The Add On Short Tee allows exisiting structures to be extended without the need for any dismantling. The tube must not be joined within this fitting.

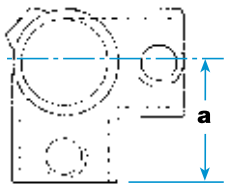
16104 : LONG TEE



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16104A	26.9	40	80					0.35
16104B	33.7	48	96					0.60
16104C	42.4	60	122					0.75
16104D	48.3	67	134					0.91
16104E	60.3	86	172					1.47

Typically used on straight and level guardrail to connect the upright to the top rail. Tubes can be joined inside a 16104 fitting. Normally used in conjunction with the 16119 fitting when building two rail guardrail.

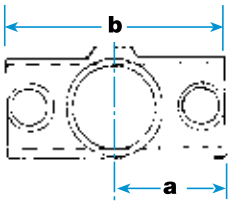
16116 : 3 WAY THROUGH



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16116A	26.9	40						0.26
16116B	33.7	48						0.43
16116C	42.4	60						0.58
16116D	48.3	67						0.69
16116E	60.3	86						1.70

Typically used on straight and level guardrail to connect the mid rails to the upright at a 90° corner. Normally used in conjunction with the 16128 fitting when building two rail guardrail.

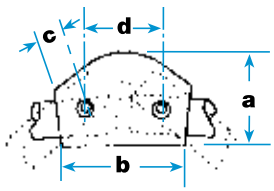
16119 : 2 SOCKET CROSS



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16119A	26.9	40	80					0.36
16119B	33.7	48	95					0.43
16119C	42.4	60	120					0.62
16119D	48.3	67	134					0.71
16119E	60.3	86	172					1.50

Typically used on straight and level guardrail to connect the mid rails to the upright. The upright must remain continuous with the cross rails being cut. Normally used in conjunction with the 16104 fitting when building a two rail guardrail.

16124 : VARIABLE ELBOW



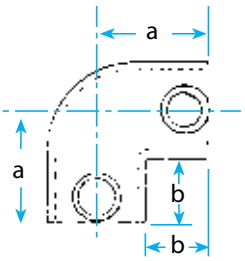
CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16124B	33.7	65	60	13	50			0.41
16124C	42.4	80	66	16	55			0.68
16124D	48.3	95	75	17	55			0.89

Variable elbow for connecting two tubes together at angles between 15° & 60° on guardrails or handrails. This fitting avoids the need to bend tube.

sales@brundle.com

TUBE CLAMPS

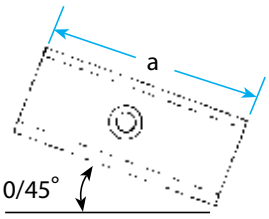
16125 : 2 WAY ELBOW



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16125A	26.9	40	22					0.28
16125B	33.7	48	25					0.39
16125C	42.4	60	33					0.55
16125D	48.3	67	36					0.65
16125E	60.3	86	47					1.06

Typically used on straight and level guardrail to connect the top rail to the upright. Normally used in conjunction with the 16101 fitting when building an end post on a two raill guardrail. This fitting can also be used to create a 90° bend.

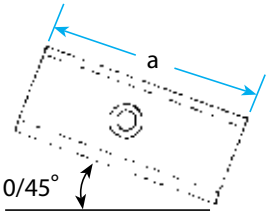
16126 : ANGLE CROSS UP TO 45°



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16126B	33.7	162						0.87
16126C	42.4	190						1.20
16126D	48.3	218						1.51

Typically used on guardrail for connecting the mid or lower rails to the upright. The upright must remain continuous with the cross rails being cut. Normally used in conjunction with the 16127 fitting.
FITTINGS STOCKED AS BLANKS, MACHINED TO ORDER TO THE ANGLE SPECIFIED BETWEEN 0° AND 45°.

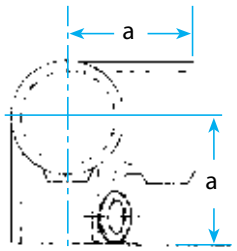
16127 : ANGLE TEE UP TO 45°



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16127B	33.7	162						0.91
16127C	42.4	190						1.31
16127D	48.3	218						1.63

Typically used on guardrail for connecting the top rail to the upright. Normally used in conjunction with the 16126 fitting.
FITTINGS STOCKED AS BLANKS, MACHINED TO ORDER TO THE ANGLE SPECIFIED BETWEEN 0° AND 45°.

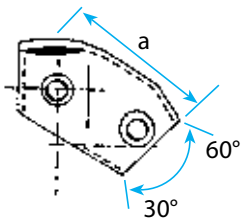
16128 : 3 WAY 90° ELBOW



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16128A	26.9	40						0.37
16128B	33.7	48						0.53
16128C	42.4	60						0.80
16128D	48.3	67						1.05
16128E	60.3	84						1.82

Typically used on straight and level guardrail to connect the two top rails to the upright at a 90° corner post. Normally used in conjunction with the 16116 fitting when building two rail guardrail.

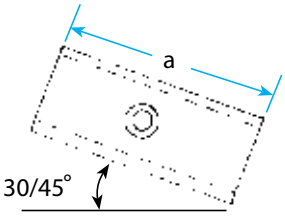
16129 : ADJUSTABLE TEE



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16129B	33.7	74						0.58
16129C	42.4	85						0.87
16129D	48.3	102						0.90

Typically used on steeper slopes or stairs as a tee connector with an angle between 30° & 60° with the upright remaining vertical. Tube cannot be joined within the fitting. Normally used in conjunction with the 16130 fitting.

16130 : ADJUSTABLE CROSS

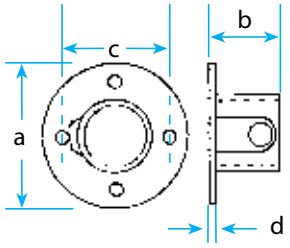


CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16130B	33.7	162						0.82
16130C	42.4	190						1.17
16130D	48.3	218						1.50

Typically used on steeper slopes or stairs as an intermediate cross connector with an angle between 30° & 45° with the upright remaining vertical. Normally used in conjunction with the 16129 fitting when building two rail guardrail. The 16130 fitting is not recommended for use as the top fitting on guardrail.

TUBE CLAMPS

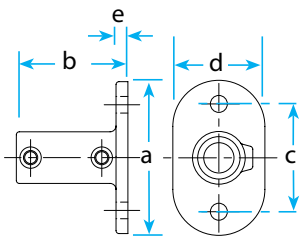
16131 : WALL FLANGE



CODE	TUBE SIZE	a	b	c	d		Ø	Kg
16131A	26.9	86	42	57	4		11	0.32
16131B	33.7	89	45	64	6		14	0.40
16131C	42.4	102	50	76	6		14	0.50
16131D	48.3	114	57	89	6		14	0.65
16131E	60.3	127	64	95	6		18	1.10

This fitting can be used for terminating cross rails to walls etc, it can also be used as a base plate for non-load bearing structures such as chairs, benches, tables etc. THIS FITTING IS NOT TO BE USED AS A BASE PLATE FOR GUARDRAIL OR IN LOAD BEARING APPLICATIONS.

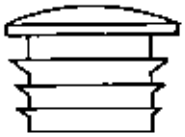
16132 : RAILING BASE FLANGE



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16132A	26.9	114	76	76	65	8	11	0.65
16132B	33.7	128	89	89	76	9	14	0.96
16132C	42.4	140	89	102	80	10	14	1.07
16132D	48.3	152	89	114	89	10	14	1.24
16132E	60.3	165	128	127	88	9	18	1.80

A structural base plate for all applications using vertical posts. For guardrail the fitting should be positioned with the base holes at 90° to the line of the rail to give maximum strength.

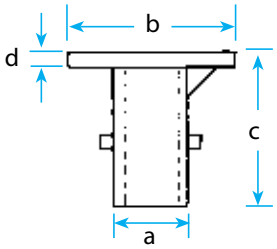
16133 : PLASTIC END CAP



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16133A	26.9							0.008
16133B	33.7							0.010
16133C	42.4							0.010
16133D	48.3							0.016
16133E	60.3							0.024

A plastic end cap to seal the open end of tubes. This fitting is a frictional fit only. For a permanent fix, a suitable adhesive should be used. For a metal alternative use the 16136.

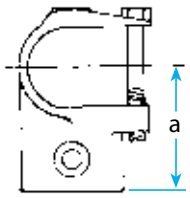
16134 : GROUND SOCKET



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16134B	33.7	60	140	130	4.5			1.42
16134C	42.4	60	140	130	4.5			1.42
16134D	48.3	60	140	130	4.5			1.42

Typically used as a base plate for a removable upright that can be removed without leaving any obstructions. The tube is held in place by the setscrew. The casting hole should be a minimum 300mm x 300mm x 300mm.

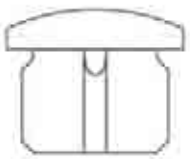
16135 : CLAMP ON TEE



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16135A	26.9	50						0.35
16135B	33.7	53						0.45
16135C	42.4	67						0.65
16135D	48.3	77						0.70
16135E	60.3	90						1.20

Typically used for adding to an existing inline structure without having to dismantle the original structure. MAXIMUM BOLT TORQUE 15N/M. Uses a M10 stainles steel bolt.

16236 : METAL DRIVE IN PLUG



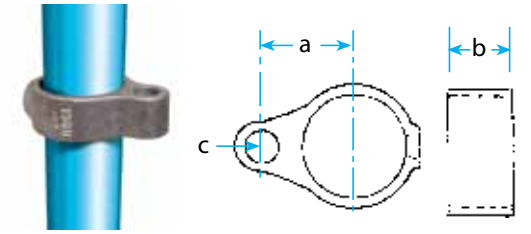
CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16236A	26.9							0.05
16236B	33.7							0.10
16236C	42.4							0.12
16236D	48.3							0.17
16236E	60.3							0.29

A metal drive in plug that is difficult to remove. Please note this plug can only be used with 3.2mm wall thick tube. For a Plastic alternative use a 16133.

sales@brundle.com

TUBE CLAMPS

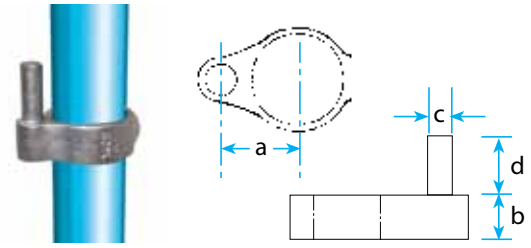
16138 : GATE EYE



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16138A	26.9	30	25	15				0.21
16138B	33.7	33	25	15				0.23
16138C	42.4	38	25	15				0.25
16138D	48.3	41	25	15				0.29

Female section of a two-part gate hinge, used in conjunction with the 16140 fitting. For heavy duty or wide gates use a 16147, 16101 & 16179 to construct the gate hinge, for details see drawing on page 20.

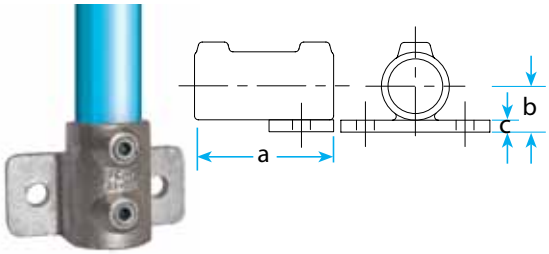
16140 : GATE HINGE



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16140A	26.9	30	25	13	38			0.24
16140B	33.7	33	25	13	38			0.27
16140C	42.4	38	25	13	38			0.30
16140D	48.3	41	25	13	38			0.33

Male section of a two-part gate hinge, used in conjunction with the 16138 fitting. For heavy duty or wide gates use a 16147, 16101 & 16179 to construct the gate hinge, for details see drawing on page 20.

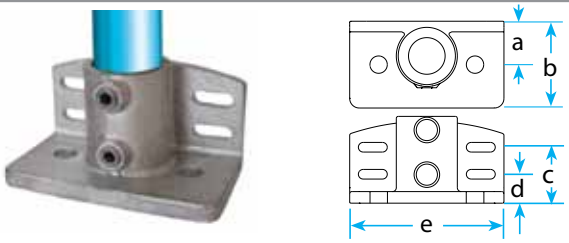
16141 : RAILING HORIZONTAL SIDE SUPPORT



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16141B	33.7	90	30	12			18	0.92
16141C	42.4	90	35	12			18	1.41
16141D	48.3	90	41	15			18	1.53

The Railing Horizontal Side Support is designed to provide a base for railings and other structures that need a side mounted flush fixing plate. When used as a secondary inline fixing the base needs to be reamed out to allow the tube to pass through.

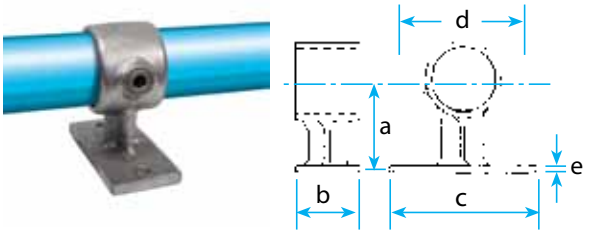
16142 : BASE FLANGE & INTEGRATED TOEBOARD



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16142C	42.4	45	90	58	30	100	18	2.00
16142D	48.3	45	90	58	30	100	18	2.12

The Base Flange with Integrated Toeboard is ideal for guardrailing and balustrading applications where the addition of a toeboard or kick plate is required. The slotted holes in the back plate allow for sideways movements to ease installation.

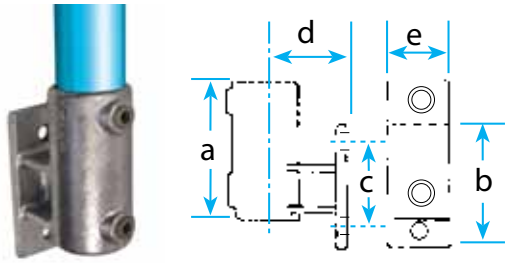
16143 : HANDRAIL BRACKET



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16143A	26.9	55	44	78	57	6	9	0.45
16143B	33.7	57	44	82	63	6	11	0.49
16143C	42.4	63	44	102	76	8	11	0.60
16143D	48.3	67	48	108	85	8	11	0.63

Typically used for wall mounted handrailing, this fitting can also be used to hold in place kick plate on guardrail or even display boards at exhibitions.
THIS FITTING IS NOT TO BE USED AS A SOLITARY BASE PLATE FOR GUARDRAIL OR SIMILAR LOAD BEARING APPLICATIONS.

16144 : RAILING SIDE SUPPORT (VERTICAL)

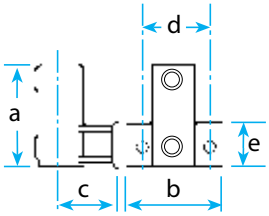


CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16144B	33.7	104	96	67	65	45	14	0.91
16144C	42.4	114	109	72	65	50	14	1.20
16144D	48.3	120	123	86	65	60	14	1.50

Typically used as an offset structural side palm fixing for either straight or sloping guardrail. The tube is unable to pass through the standard fitting, should this be required then the base must be reamed out. Use in conjunction with a 16143 when a secondary inline base fixing is required.

TUBE CLAMPS

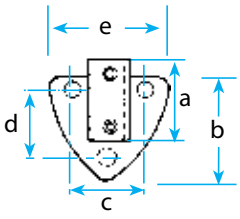
16145 : OFFSET RAILING SIDE SUPPORT (HORIZONTAL)



CODE	TUBE SIZE	a	b	c	d		Ø	Kg
16145B	33.7	104	98	62	65	44	14	0.95

Typically used as an offset non-structural side palm fixing for either straight or sloping guardrail. The tube is unable to pass through the standard fitting, should this be required then the base must be reamed out. Use in conjunction with a 16143 when a secondary inline base fixing is required.

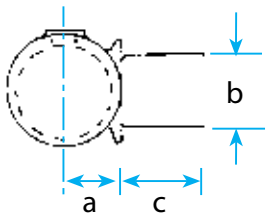
16146 : SIDE PALM FIXING



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16146B	33.7	76	89	71	63	97	11	0.65
16146C	42.4	84	98	82	72	108	11	0.82
16146D	48.3	92	104	86	78	112	11	0.88

Typically used as a structural side palm fixing for the upright on either straight or sloping guardrail keeping the upright as close as possible to the slope or stairs. When used as a secondary inline fixing the base needs to be machined to allow the tube to pass through and the bottom fixing hole then becomes redundant.
BASE THICKNESS 7MM

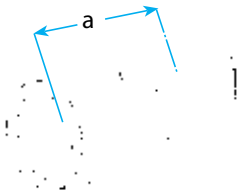
16147 : INTERNAL SWIVEL TEE



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16147B	33.7	23	33	34				0.39
16147C	42.4	29	42	40				0.58
16147D	48.3	31	48	44				0.66

Typically used for offset variable angle sloping guardrail in conjunction with a 16101 or 16125 fitting. This fitting eliminates the need for specialised angle fittings such as the 16126 or 16127.

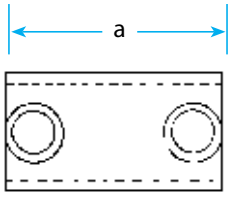
16148 : SHORT SWIVEL TEE



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16148A	26.9	65						0.31
16148B	33.7	66						0.32
16148C	42.4	73						0.54
16148D	48.3	81						0.49
16148E	60.3	110						1.14

Typically used on level guardrail to create a corner at other than 90° with an upright. Creates angles on plan between 85° & 235°. When using the 16148 the top of the tube needs to be closed using a 16133 end cap. The 16148 fittings are used in pairs.

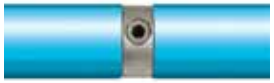
16149 : SLEEVE JOINT

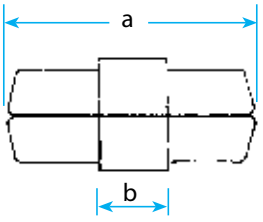


CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16149A	26.9	76						0.33
16149B	33.7	89						0.39
16149C	42.4	102						0.50
16149D	48.3	100						0.55
16149E	60.3	120						1.14

Inline external connector for joining two tubes together in a run. For an inline joint that is the same diameter as the tube the 16150 fitting should be used.
Not recommended as a structural joint.

16150 : INTERNAL JOINT





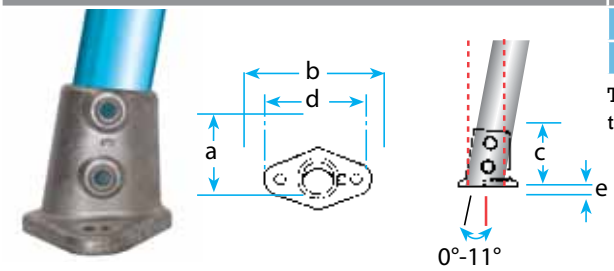
CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16150B	33.7	75	19					0.25
16150C	42.4	75	19					0.35
16150D	48.3	75	19					0.45

Inline internal connector for joining two tubes together.
Only medium gauge 3.2mm wall thick tube can be used.
The 16150 should never be used as a load bearing joint.
The 16150 must be used within 100mm of an upright.

sales@brundle.com

TUBE CLAMPS

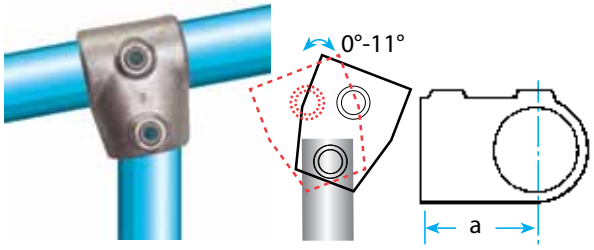
16152 : BASE FLANGE 0° - 11°



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16152C	42.4	91	140	79	102	10	14	0.90
16152D	48.3	96	152	80	114	10	14	1.40

Typically used as a structural base for sloping guardrail between 0° and 11° enabling the upright to remain vertical.

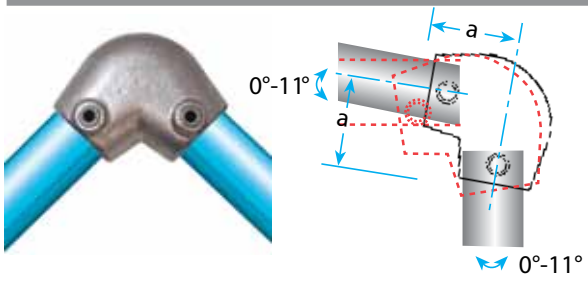
16153 : SHORT TEE 0° - 11°



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16153C	42.4	60						0.62
16153D	48.3	68						0.76

Typically used on shallow sloping guardrail between 0° and 11° to connect the upright to the top rail or the end or mid rail to the upright. Tubes cannot be joined inside this fitting, to join tubes use the 16155. Normally used in conjunction with the 16154 fitting.

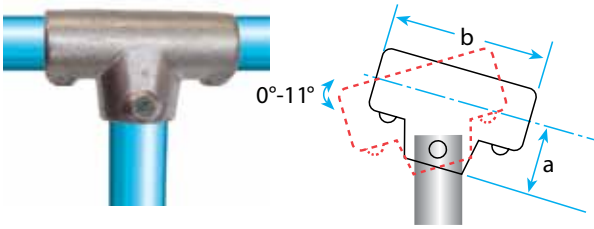
16154 : ELBOW 0° - 11°



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16154C	42.4	60						0.87
16154D	48.3	67						1.02

Typically used on shallow sloping guardrail between 0° and 11° at the start or end of a run to connect the upright to the top rail. This fitting can be used at either the bottom or top of an incline. Normally used in conjunction with the 16153 fitting.

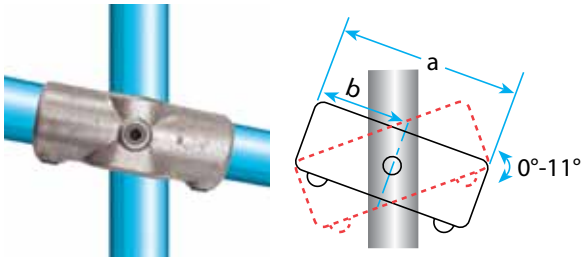
16155 : LONG TEE 0° - 11°



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16155C	42.4	60	144					1.02
16155D	48.3	67	158					1.10

Typically used on shallow sloping guardrail between 0° and 11° to connect the upright to the top rail. Tubes can be joined inside this fitting. Normally used in conjunction with the 16156 fitting.

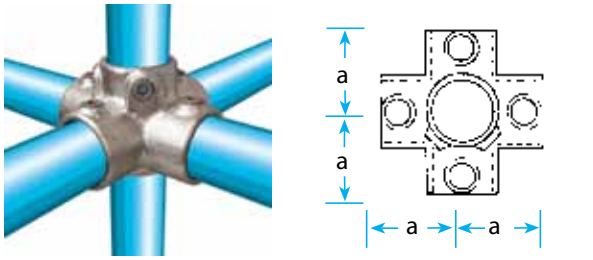
16156 : TWO SOCKET CROSS 0° - 11°



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16156C	42.4	144	72					0.93
16156D	48.3	158	79					1.00

Typically used on shallow sloping guardrail between 0° and 11° to connect the mid or lower rails to the upright. The upright must remain continuous with the cross rails cut. Normally used in conjunction with the 16155 fitting.

16158 : FOUR WAY CROSS

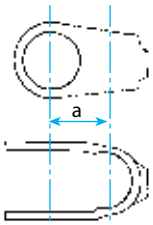


CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16158A	26.9	41						0.60
16158B	33.7	48						0.84
16158C	42.4	60						1.21
16158D	48.3	67						1.19
16158E	60.3	86						2.50

A Four Way Cross for joining tubes together in the centre of a structure. The fitting allows the upright to pass through the centre with the cross rails joining at 90° to the upright.

TUBE CLAMPS

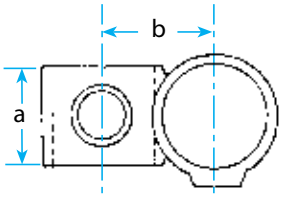
16160 : CLAMP ON CROSSOVER



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16160A	26.9	28						0.18
16160B	33.7	34						0.30
16160C	42.4	43						0.47
16160D	48.3	49						0.65
16160E	60.3	62						0.81

Typically used for adding to an existing offset structure without the need for any dismantling.

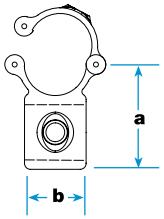
16161 : 90° CROSSOVER



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16161A	26.9	36	35					0.20
16161B	33.7	40	40					0.34
16161C	42.4	45	49					0.41
16161D	48.3	51	55					0.54
16161E	60.3	61	64					1.06
16161BC	33.7 / 42.4	45	45					0.46
16161BD	33.7 / 48.3	51	48					0.50
16161CD	42.4 / 48.3	51	52					0.59

Typically used for racking systems or offset guardrail. Tubes cannot be joined inside this fitting.

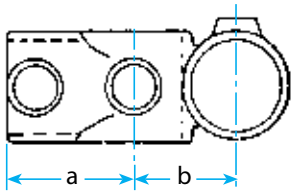
16A161 : ADD ON 90° CROSSOVER



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16A161C	42.4	49	46					0.65
16A161D	48.3	55	50					0.73

The Add On Short Tee allows additions to exisiting structures without the need for any dismantling. This fitting is designed to give a 90 degree offset crossover joint. The tubes cannot be joined within this fitting.

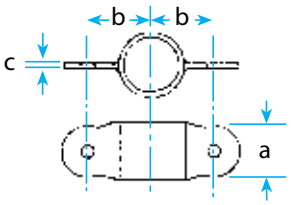
16165 : COMBINATION SOCKET



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16165A	26.9	40	35					0.30
16165B	33.7	48	40					0.57
16165C	42.4	60	50					0.79
16165D	48.3	67	56					0.96
16165E	60.3	86	68					1.65

A combination fitting typically used for the construction of pallet racking or shelved racking systems. Tube cannot be joined inside this fitting.

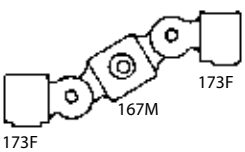
16167M : DOUBLE MALE SECTION OF SWIVEL



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16167A	26.9	32	40	8				0.27
16167B	33.7	32	44	8				0.28
16167C	42.4	32	49	8				0.34
16167D	48.3	32	52	8				0.35
16167E	60.3	50	63	8				0.63

Double male fitting with the connection lugs at 180° to each other. This fitting can also be used to retain display panels etc. in place.
THIS FITTING IS NOT DESIGNED TO WITHSTAND LATERAL LOADINGS.

16167 : DOUBLE SWIVEL COMBINATION



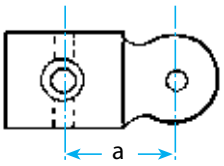
CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16167A	26.9							0.90
16167B	33.7							1.06
16167C	42.4							1.25
16167D	48.3							1.45
16167E	60.3							2.50

A double inline swivel connector. Typically used on sloping guardrail. This fitting combines 1 x 16167M & 2 x 16173F. The swivels can travel approximately 85° from the horizontal in both directions.
THIS FITTING IS NOT DESIGNED TO WITHSTAND LATERAL LOADINGS. AN ENTIRE STRUCTURE SHOULD NOT BE BUILT USING ONLY SWIVEL FITTINGS, THIS WOULD BE UNSTABLE.

sales@brundle.com

TUBE CLAMPS

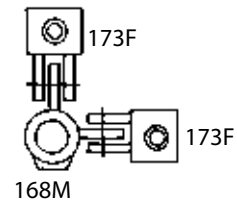
16168M : 90° CORNER SWIVEL MALE SECTION



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16168AM	26.9	40						0.28
16168BM	33.7	44						0.30
16168CM	42.4	49						0.34
16168DM	48.3	53						0.38

Double male fitting with the connection lugs at 90° to each other. This fitting can also be used to retain display panels etc. in place.
THIS FITTING IS NOT DESIGNED TO WITHSTAND LATERAL LOADINGS.

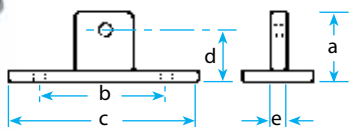
16168 : 90° CORNER SWIVEL COMBINATION



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16168A	26.9							0.90
16168B	33.7							1.06
16168C	42.4							1.29
16168D	48.3							1.50

A double corner swivel connector typically used for sloping guradrail. This fitting combines 1 x 16168M & 2 x 16173F. The swivels can travel approximately 85° from the horizontal in both directions.
THIS FITTING IS NOT DESIGNED TO WITHSTAND LATERAL LOADINGS. AN ENTIRE STRUCTURE SHOULD NOT BE BUILT USING ONLY SWIVEL FITTINGS, THIS WOULD BE UNSTABLE.

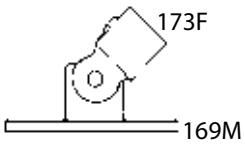
16169M : SWIVEL BASE SECTION



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16169CM	N/A	50	81	111	40	8	10	0.35

Non-structural male locating base, typically used to create a swivel base.
THIS FITTING IS NOT DESIGNED TO WITHSTAND LATERAL LOADINGS.

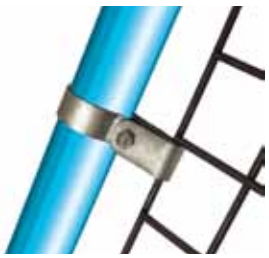
16169 : SWIVEL BASE

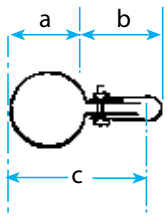


CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16169A	26.9						10	0.64
16169B	33.7						10	0.77
16169C	42.4						10	0.94
16169D	48.3						10	0.98
16169E	60.3						10	1.29

Non-structural male locating swivel. This fitting combines 1 x 16169M & 1 x 16173F. The swivel can travel approximately 85° from the horizontal in both directions.
THIS FITTING IS NOT TO BE USED AS A BASE PLATE FOR GUARDRAIL. THIS FITTING IS NOT DESIGNED TO WITHSTAND LATERAL LOADINGS.

16170 : MESH PANEL CLIP - SINGLE

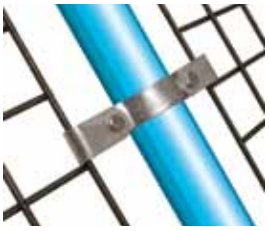


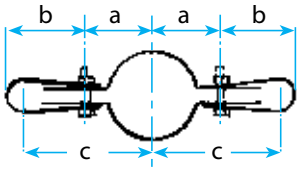


CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16170A	26.9	27	26	58				0.06
16170B	33.7	30	26	61				0.07
16170C	42.4	33	26	64				0.08
16170D	48.3	38	26	68				0.09
16170E	60.3	44	26	75				0.09

A single mesh panel clip. Typically used for retaining weld mesh panels into guardrail. To correctly retain the weld mesh panel in place using this clip, the mesh should be framed with a 8mm bar. Note - Dimension C can be increased by up to 10mm.

16171 : MESH PANEL CLIP DOUBLE



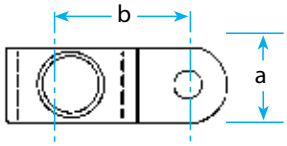


CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16171A	26.9	27	26	58				0.09
16171B	33.7	30	26	61				0.12
16171C	42.4	33	26	64				0.13
16171D	48.3	38	26	68				0.13
16171E	60.3	44	26	75				0.14

Typically used for retaining weld mesh panels into guardrail. To correctly retain the weld mesh panel in place using this clip, the mesh should be framed with a 8mm bar. Note - Dimension C can be increased by up to 10mm.

TUBE CLAMPS

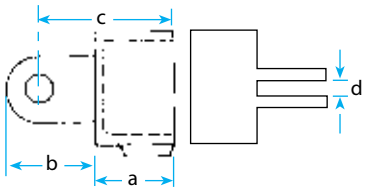
16173M : SINGLE MALE SECTION OF SWIVEL



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16173AM	26.9	32	38					0.18
16173BM	33.7	32	42					0.20
16173CM	42.4	32	47					0.21
16173DM	48.3	32	50					0.24
16173EM	60.3	48	60					0.53

A single male fitting with one connection lug. This fitting can also be used to retain display panels etc. in place.
FITTING IS NOT DESIGNED TO WITHSTAND LATERAL LOADINGS.

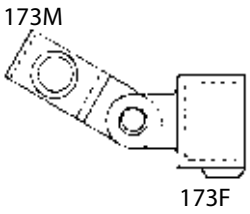
16173F : FEMALE SECTION OF SWIVEL



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16173AF	26.9	39	35	53	10			0.28
16173BF	33.7	41	35	60	10			0.34
16173CF	42.4	44	35	63	10			0.41
16173DF	48.3	50	35	70	10			0.46
16173EF	60.3	70	40	95	10			0.88

Female section used in conjunction with the male fittings (16167M, 16168M, 16169M & 16173M).
FITTING IS NOT DESIGNED TO WITHSTAND LATERAL LOADINGS.

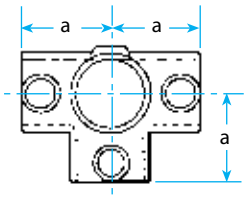
16173 : SINGLE SWIVEL COMBINATION



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16173A	26.9							0.48
16173B	33.7							0.60
16173C	42.4							0.71
16173D	48.3							0.86
16173E	60.3							1.47

Typically used on sloping guardrail. This fitting combines 1 x 16173M & 16173F. The swivels can travel approximately 85° from the horizontal in both directions.
NOT DESIGNED TO WITHSTAND LATERAL LOADINGS. AN ENTIRE STRUCTURE SHOULD NOT BE BUILT ONLY USING SWIVEL FITTINGS, THIS WOULD BE UNSTABLE.

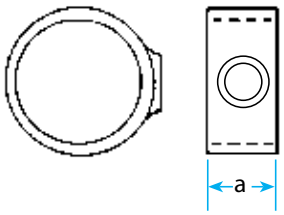
16176 : SIDE OUTLET TEE



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16176A	26.9	40						0.42
16176B	33.7	48						0.49
16176C	42.4	60						0.94
16176D	48.3	66						0.87
16176E	60.3	86						1.67

Typically used for constructing market stall or play frame structures.

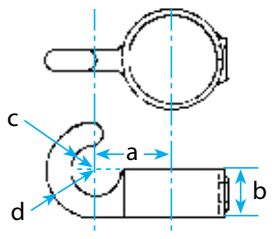
16179 : LOCKING COLLAR



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16179A	26.9	22						0.15
16179B	33.7	25						0.15
16179C	42.4	25						0.18
16179D	48.3	25						0.21
16179E	60.3	40						0.31

Typically used as a locking collar or for providing additional strength to fittings on high load structures.

16182 : HOOK



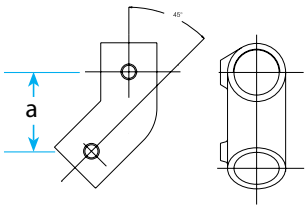
CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16182A	26.9	32	25	10	25			0.17
16182B	33.7	34	25	13	21			0.25
16182C	42.4	39	25	13	25			0.25
16182D	48.3	41	25	13	25			0.30

This is not recommended as a permanent chain location, for permanent chain locations one end should be retained in place using a 16173M fitting and fixed with a nut and bolt.

sales@brundle.com

TUBE CLAMPS

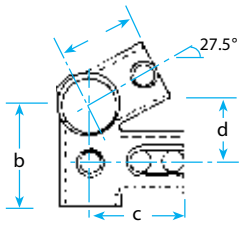
16184 : 45° TEE



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16184B	33.7	45						0.49
16184C	42.4	54						0.69
16184D	48.3	60						0.91

The 45° Tee is used as a bracing and strut component for strengthening structures.

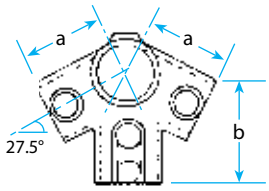
16185 : 27½° EAVES FITTING



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16185D	48.3	67	89	83	51			1.19

Typically used for the eaves end of a roof system in conjunction with the 16191.

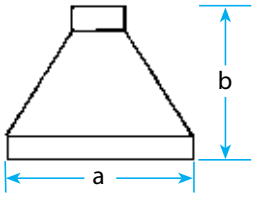
16191 : 27½° RIDGE FITTING



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16191D	48.3	67	89					0.96

Typically used for the ridge of a roof system in conjunction with the 16185.

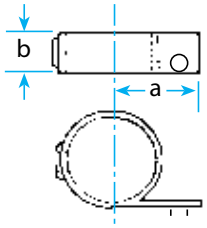
16192 : WEATHER SHIELD



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16192B	33.7	140	125					0.25
16192C	42.4	150	150					0.30
16192D	48.3	166	150					0.35

Typically used for weather protection around a 16132 fitting on a flat roof guardrail system. This fitting needs to be sealed with a suitable sealant. For installation details see page 20.

16199 : FIXING BRACKET



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16199B	33.7	45	25				6	0.18
16199C	42.4	53	40				11	0.34
16199D	48.3	56	40				11	0.37

Typically used for fixing panels, display boards or flooring to structures. The fitting is supplied with a pre-drilled hole.

16231 : EXTRA SET SCREWS

CODE	a
16231A	1/4" BSP SHORT
16231BC	1/4" BSP
16231DE	3/8" BSP

Proprietary coated, case hardened setscrews. The setscrews when tightened to a torque of 39Nm give a slip load of 900kg to a safety factor of 2.

16232 : HEXAGON KEY

CODE	a
16232ABC	1/4" A/F
16232DE	5/16" A/F
(AF - across flat)	

Hexagonal Allen Key. This is the only tool required to tighten up a setscrew.

16233 : DUAL RATCHET

CODE	a
16233ABC	1/4" A/F
16233DE	5/16" A/F
(AF - across flat)	

Dual Headed Ratchet Key. The ratchet is supplied with two removable hexagon heads to enable all setscrews to be tightened to the correct torque.

TUBE CLAMPS

Handrailing for the disabled

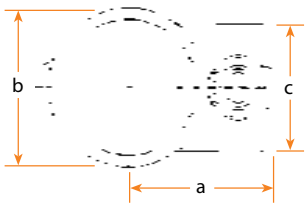
The DDA range has been designed to meet the requirements laid down in the Disability Discrimination Act by providing a non-discriminatory handrail solution that complies with Part 'M' of the Building Regulations 2004 and is a smooth continuous handrail of 42.4mm diameter. DDA fittings are supplied Hot Dip Galvanised as standard. DDA fittings can be powder coated making them more visible and in cold temperatures a powder coated finish will give the impression of being warmer to touch.

DDA

The DDA Range

Designed to satisfy the requirements of Part 'M' of the Buildings Regulations 2004.

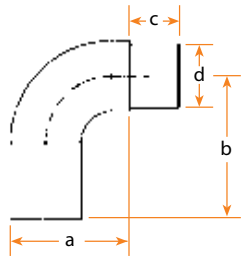
16DDA01 : UPRIGHT CONNECTOR



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16DDA01		55	40	48.3				0.38

Connector for attaching the 16DDA04 intermediate bracket or the 16DDA02 handrail connector to the 48.3mm o/d upright.

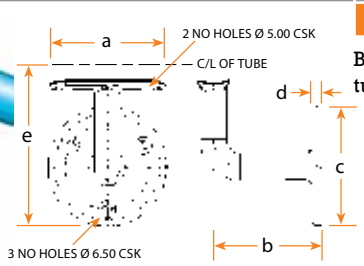
16DDA02 : HANDRAIL CONNECTOR



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16DDA02		51	86	30	38			0.48

Connector for attaching the end of the 42.4mm o/d handrail tube at 90° to the 48.3mm o/d upright. This bracket is used in conjunction with 16DDA01 & 16DDA07.

16DDA03 : WALL BRACKET



CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16DDA03		88	82	90	8	84		0.62

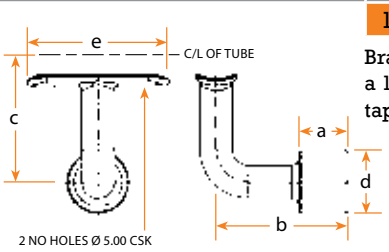
Bracket for supporting the 42.4mm o/d handrail tube to a wall. The 42.4mm o/d tube is fixed to the 16DDA03 using either 2 x self tapping screws or 2 x pop rivets.

sales@brundle.com

TUBE CLAMPS

16DDA04 : INTERMEDIATE BRACKET

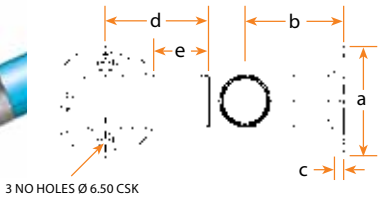
CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16DDA04		30	51	84	38	88		0.44



Bracket for supporting the top or middle rail tube at an upright in conjunction with a 16DDA01. The 42.4mm o/d tube is fixed to the 16DDA04 using either 2 x self tapping screws or 2 x pop rivets.

16DDA05 : END RETURN

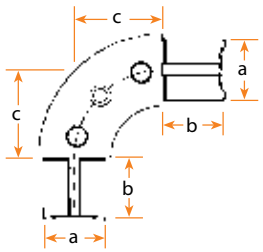
CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16DDA05		90	82	8	86	46		0.64



Bracket for terminating the 42.4mm o/d handrail tube back to a wall. This bracket is used in conjunction with a 16DDA07.

16DDA06 : 90° BEND

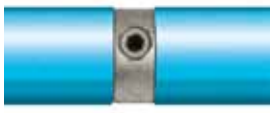
CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16DDA06		33.7	35	50				0.93

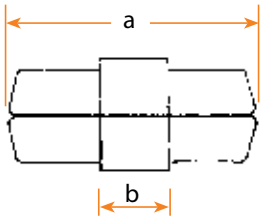


Expanding elbow for creating a smooth 90° bend in the 42.4mm o/d tube.

16DDA07 : INTERNAL CONNECTOR

CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16DDA07		42.4	75	19				0.35

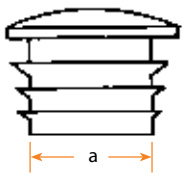




Expanding internal connector for joining sections of 42.4mm o/d tube, or other DDA fittings as and when required.

16133D : END CAP - PLASTIC

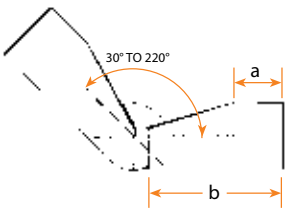
CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16133D		48.3						0.016



48.3mm o/d plastic end cap for inserting into the open tube on the top of the upright. For a permanent fix, a suitable adhesive should be used.

16DDA09 : ADJUSTABLE BEND

CODE	TUBE SIZE	a	b	c	d	e	Ø	Kg
16DDA09		31	86					0.61

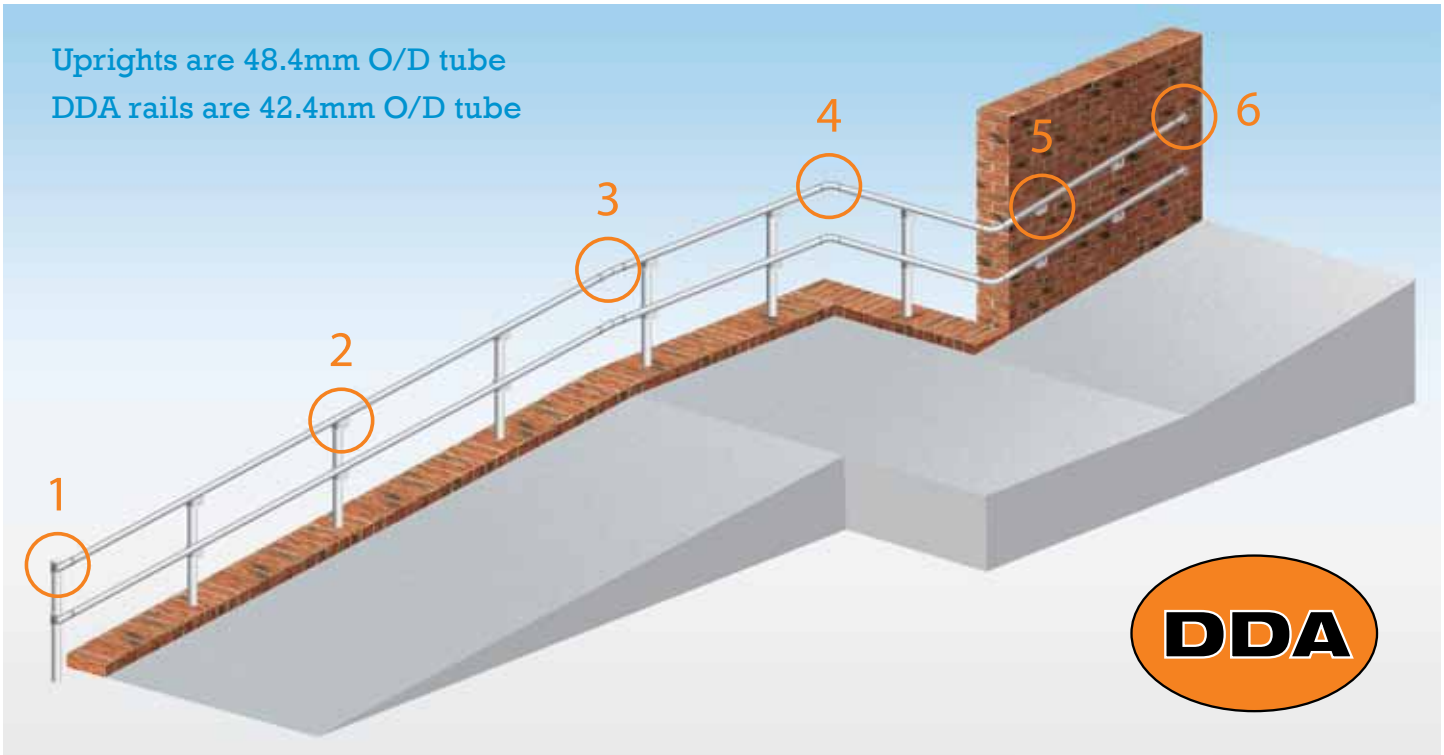


Fitting for creating an adjustable bend between the horizontal and the vertical.

DDA FITTINGS

DDA uprights are 48.4mm O/D tube. DDA rails are 42.4mm O/D tube with a 3.2mm wall thickness. The DDA range conforms to the requirement for smooth continuous handrail between 40 - 45mm O/D.
When using 16DDA03 or 16DDA04 fittings the tube can be connected using either self tapping screws or pop rivets.

This Diagram Shows a Typical DDA Range Installation



16133D, 16DDA01, 16DDA02, 16DDA07

16133D, 16DDA01, 16DDA04

16DDA07, 16DDA09, 16DDA07

16DDA06

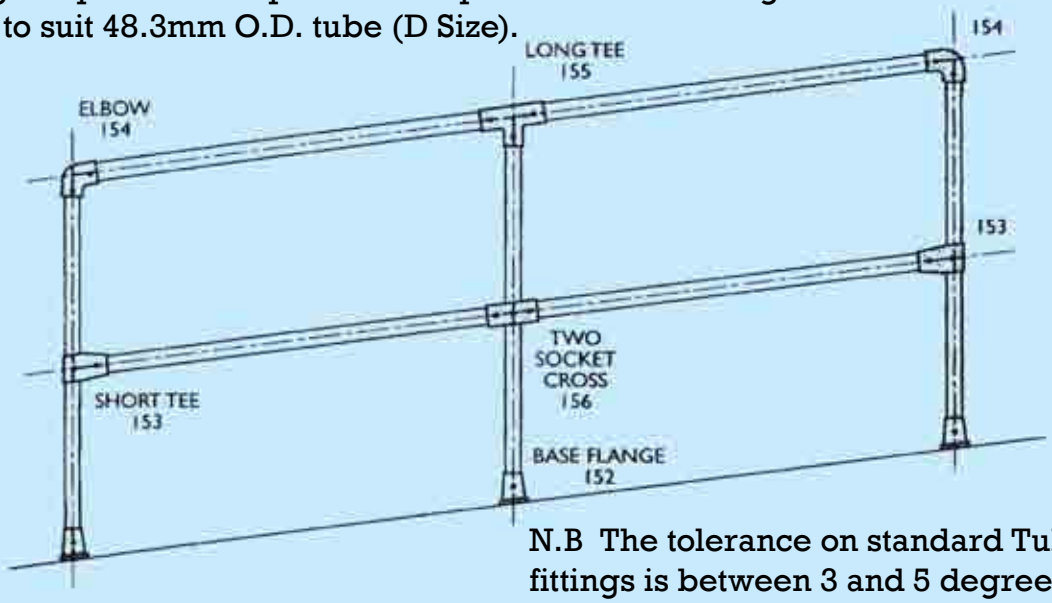
16DDA03

16DDA07, 16DDA05

sales@brundle.com

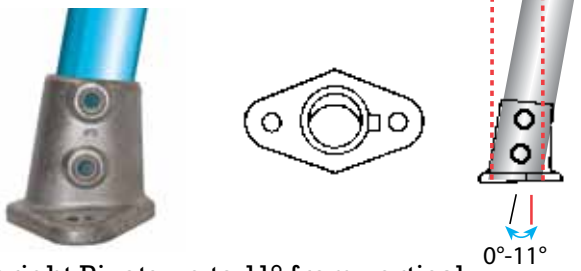
HANDRAIL SLOPE FITTINGS

For railings required on slopes and ramps between 0-11 degrees.
Available to suit 48.3mm O.D. tube (D Size).



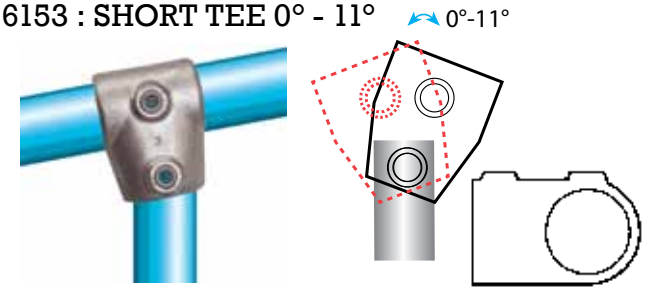
N.B The tolerance on standard Tube Clamp fittings is between 3 and 5 degrees.

16152 : BASE FLANGE 0° - 11°



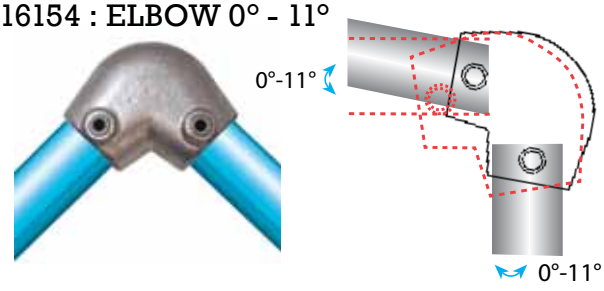
Upright Pivots up to 11° from vertical

16153 : SHORT TEE 0° - 11°



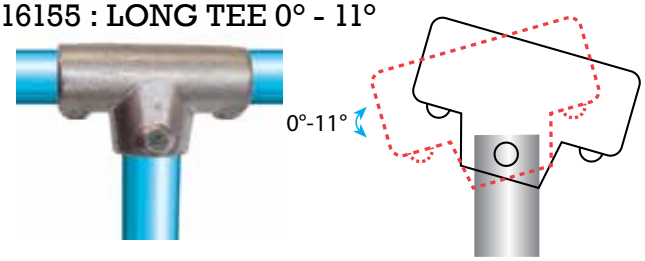
Joins middle rail to end uprights on slopes upto 11°

16154 : ELBOW 0° - 11°



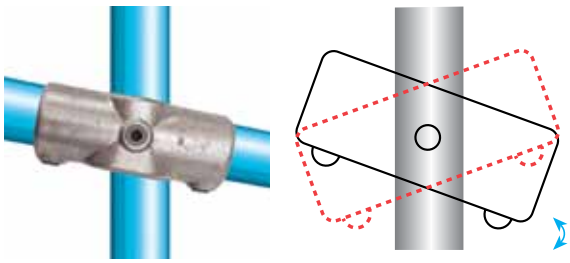
Joins top rail to end uprights on slopes up to 11°

16155 : LONG TEE 0° - 11°



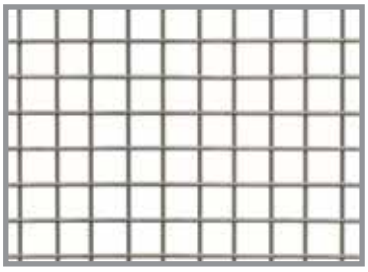
Joins intermediate uprights to top rail on slopes up to 11° - Also acts as a sleeve joint

16156 : TWO SOCKET CROSS 0° - 11°



Joins intermediate uprights to middle rail on slopes up to 11° upright passing through the fitting

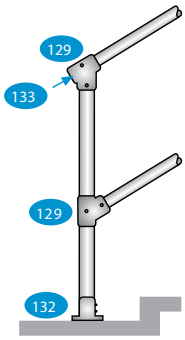
WE CAN SUPPLY MESH INFILL PANELS



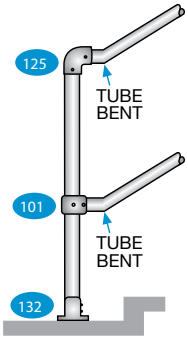
See page 9 for dimensions.

TUBE CLAMPS

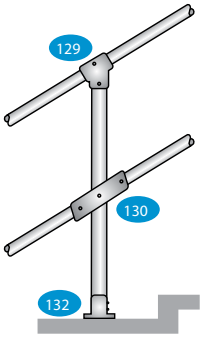
CONSTRUCTION OF AN INLINE GUARDRAIL - SLOPING



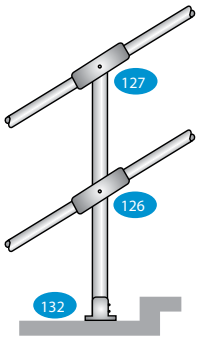
ADJUSTABLE 30 - 60°



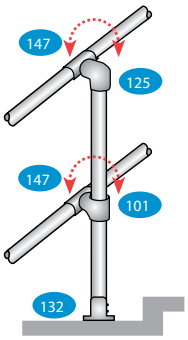
VARIABLE



ADJUSTABLE 30 - 45°



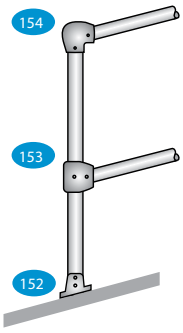
0 - 45° MACHINED TO REQUIRED ANGLE



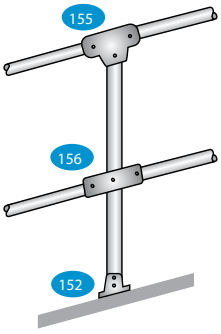
360° ROTATION

FOR DETAILS AND DIMENSIONS ON BASE FIXINGS, REFER TO PAGE 20.

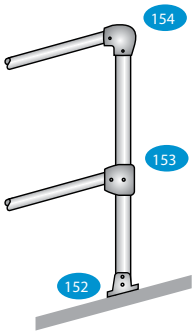
CONSTRUCTION OF AN INLINE GUARDRAIL - SLOPING



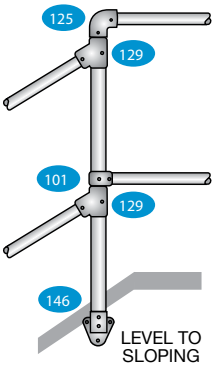
BOTTOM END POST 0-11°



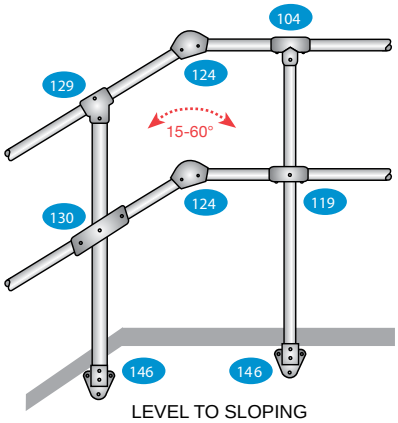
MID POST 0-11°



TOP END POST 0-11°



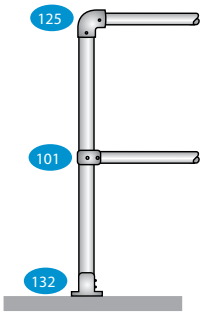
LEVEL TO SLOPING



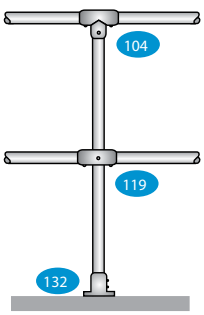
LEVEL TO SLOPING USING 16124

FOR DETAILS AND DIMENSIONS ON BASE FIXINGS, REFER TO PAGE 20.

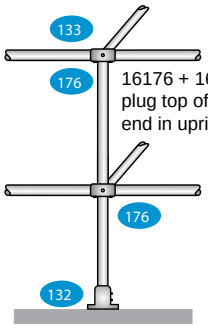
CONSTRUCTION OF AN INLINE GUARDRAIL - LEVEL



END POST

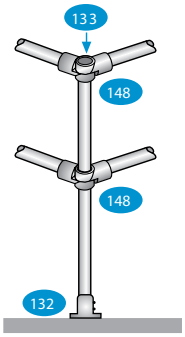


MID POST

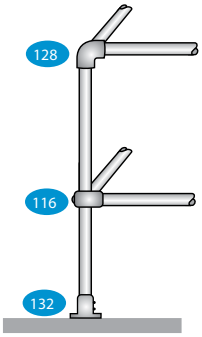


16176 + 16133 to plug top of open end in upright.

DIVIDER



CORNER POST 90° TO 180°



90° CORNER POST

FOR DETAILS AND DIMENSIONS ON BASE FIXINGS, REFER TO PAGE 20.

GUIDE TO GUARDRAIL BAY SIZES (DIMENSIONS ARE UPRIGHT CENTRES)

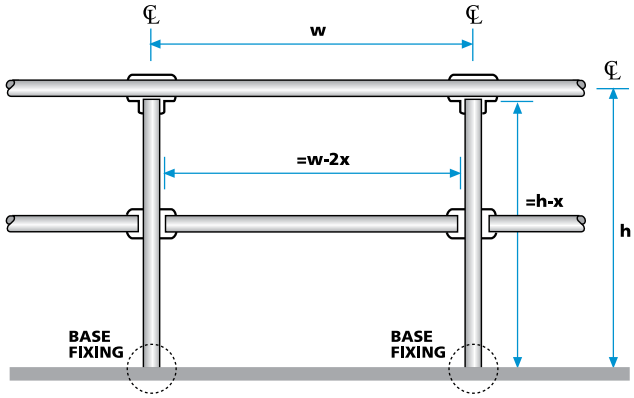
TYPE SIZE	SIZE B	SIZE C		SIZE D			SIZE E	
O/D	33.7	42.4	42.4	48.3	48.3	48.3	60.2	60.2
Wall in mm	3.2	3.2	4.0	3.2	4.0	5.0	3.7	4.5
Design Load N/m	GUARDRAIL HEIGHT 900mm							
360	814	1369	1595	1828	2584	3052	3265	3858
740	396	666	776	889	1257	2229	1588	1876
Design Load N/m	GUARDRAIL HEIGHT 1100mm							
360	666	1120	1305	1496	2114	2778	2671	3155
740	324	545	635	728	1028	1824	1300	1535
1500	160	269	313	359	507	900	641	757

Upright wall thickness as per chart, cross rails are 3.2mm wall thickness tube. The above are based on the maximum permissable bending moment of the tube. THE DIMENSIONS ABOVE ARE FOR GUIDANCE ONLY AND ARE NOT INTENDED TO BE USED AS AN AUTHORISED SPECIFICATION DIMENSION.

sales@brundle.com

TUBE CLAMPS

HOW TO CALCULATE CORRECT TUBE LENGTH - LEVEL



w = Distance between uprights ℄ to ℄

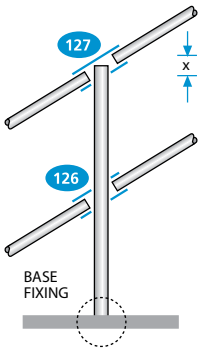
h = Height of upright ground level to ℄ top rail

Upright height = **h-x**
Cross rail = **w-2x**

CUTTING CHART	
SIZE	x
A	14
B	17
C	22
D	25
E	30

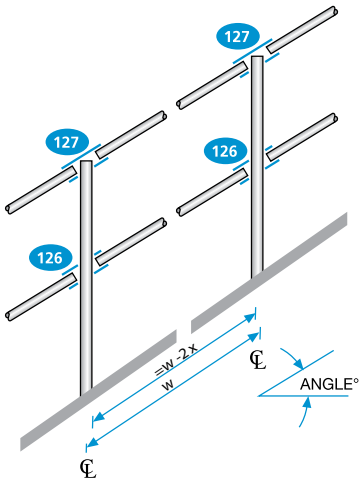
FOR DETAILS AND DIMENSIONS ON BASE FIXINGS, REFER TO PAGE 20.

HOW TO CALCULATE CORRECT TUBE LENGTH - SLOPING, 16126 & 16127 FITTINGS



DIMENSION 'X'			
	B	C	D
0°	19	22	25
5°	16	19	22
10°	16	16	19
15°	13	13	16
20°	13	13	16
25°	9	13	13
30°	9	13	13
35°	9	9	13
40°	6	9	9
45°	6	6	9

Add dimension 'x' to the upright height.

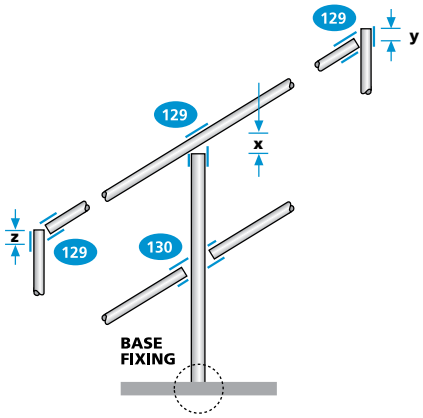


DIMENSION 'X'			
	B	C	D
0°	19	23	26
5°	22	25	29
10°	25	29	33
15°	25	33	35
20°	29	33	38
25°	33	35	42
30°	35	42	45
35°	39	45	52
40°	42	49	57
45°	48	55	64

Subtract 2 x dim 'x' from the upright centres.
The upright centres must be measured on the slope.

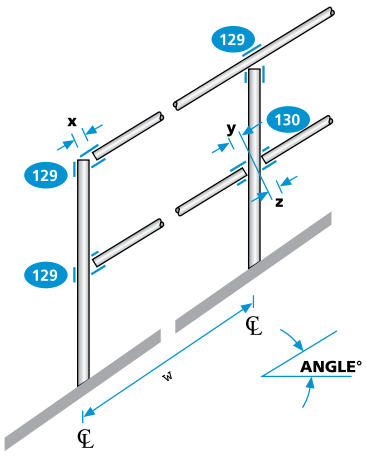
FOR DETAILS AND DIMENSIONS ON BASE FIXINGS, REFER TO PAGE 20.

HOW TO CALCULATE CORRECT TUBE LENGTH - SLOPING, 16129 & 16130 FITTINGS



		30°	35°	40°	45°
B	x	-34	-34	-37	-43
	y	+24	+18	+11	+3
	z	+36	+42	+49	+58
C	x	-40	-44	-48	-54
	y	+29	+21	+12	+3
	z	+44	+52	+61	+71
D	x	-45	-50	-55	-61
	y	+33	+24	+14	+3
	z	+46	+55	+65	+77

Select the orientation for the 16129 fitting.
Add or subtract the relevant dimension.



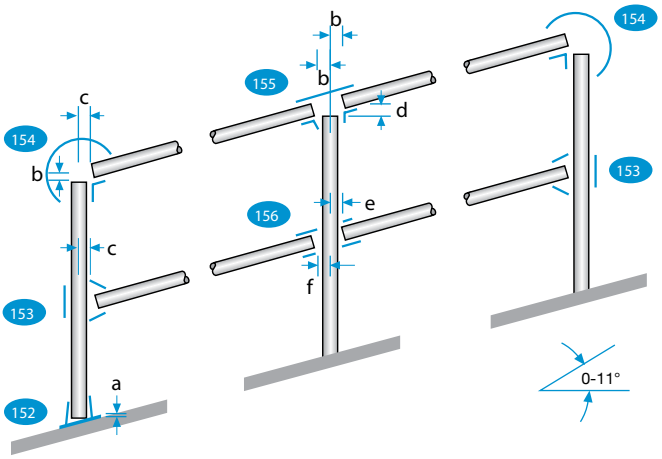
		30°	35°	40°	45°
B	x	32	34	37	44
	y	55	51	48	46
	z	36	40	43	46
C	x	40	45	49	55
	y	64	61	57	54
	z	41	45	49	53
D	x	46	51	56	61
	y	78	74	64	65
	z	55	58	61	66

Subtract the relevant dimensions from the upright centres.
The upright centres must be measured on the slope.

FOR DETAILS AND DIMENSIONS ON BASE FIXINGS, REFER TO PAGE 20.

TUBE CLAMPS

HOW TO CALCULATE CORRECT TUBE LENGTH - SLOPING, 0 - 11° SLOPE FITTINGS



Upright

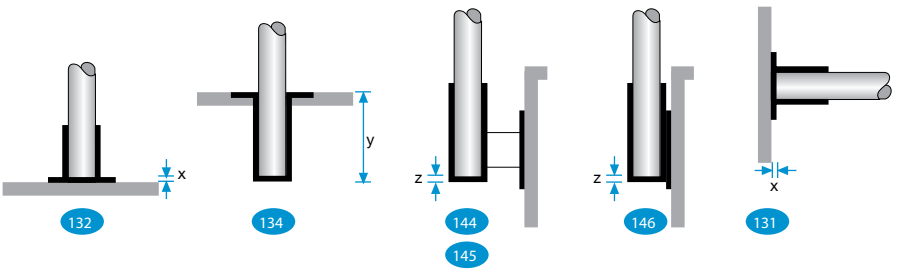
Calculating the upright height - select the top rail fitting (16153, 16154, 16155). Subtract the relevant dimension from the upright length. Add or subtract the dimension for the ground fitting being used.

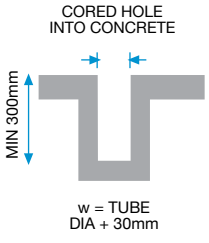
Cross rail

Calculating the cross rail width - select the fittings to be used and subtract the relevant dimension from the upright centres. The upright centres must be measured on the slope.

CUTTING CHART	
DIMENSION	
A	7
B	25
C	28
D	28
E	28
F	35

CUTTING DIMENSIONS FOR BASE AND WALL PLATES



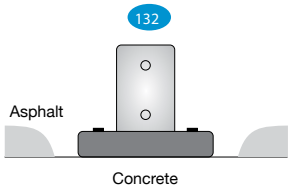


	X	Y	Z
A	6	-	5
B	6	115	5
C	6	127	6
D	6	127	6

Dimensions X and Z subtract from upright length. Dimension Y added to upright length. Uprights cast into concrete pockets must be flat on one end and the hole min 300mm x 300mm x 300mm.

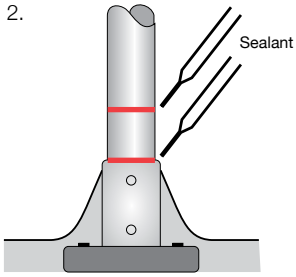
16192 WEATHER FLANGE INSTALLATION PROCESS

1.



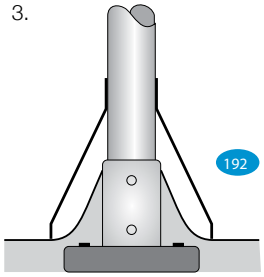
Remove asphalt down to the concrete. Fix 16132 fitting to concrete.

2.



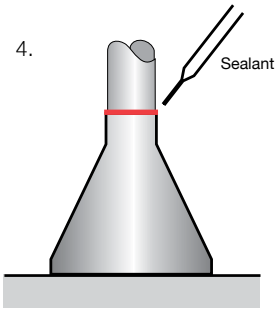
Dress asphalt around the 16132 fitting. Insert upright and apply sealant as illustrated.

3.



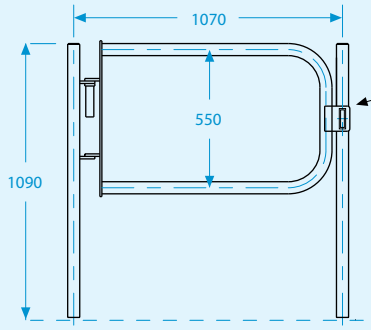
Place 16192 fitting on upright ensuring that the sealant is drawn down with it.

4.



Seal top of 16192 fitting to the upright.

SELF CLOSING FABRICATED GATE & TWO POSTS



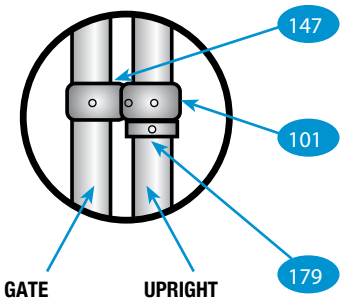
Available in 48.3mm tube only.

Slam Plate complete with rubber backing pad and slotted hole.

Left hand gate
Code: 1603TCG1D

Right hand gate
Code: 1603TCG2D

WIDE GATE HINGE MADE FROM FITTINGS



Tighten the setscrew on the 16147 to the gate.

Tighten the setscrew on the 16101 to the 16147.

Tighten the setscrew on the 16179 to the upright.

Leave the setscrew on the 16101 to the upright loose.

sales@brundle.com

ROOF EDGE PROTECTION
(No fixings required)

MAIN SYSTEM PARTS

Upright Post - **Code: 16RE00G40**

- 48mm diameter, 1100mm tall factory assembled upright comprising of: 2 Cradles, 1 Base and an End Cap

Galvanised Tube with 3.2mm thick wall

- **Code: 160248H** in lengths of 6.5 metres
- **Code: 16024820H** in lengths of 2 metres

Curved Post - **Code: 16RE00G40SS**

- 48mm diameter, 1100mm high curved factory assembled upright comprising of: 3 Cradles, 1 Base and an End Cap

Counterweight - **Code: 16RE11G40**

- Recycled PVC moulding containing a locking collar to secure and lock the Roof Edge Tube in position. The counterweight is slim and deemed a low trip hazard

Run End Counterweight - **Code: 16RE12G40**

- Double counterweight assembly which is used in conjunction with all end posts on installations with "free ends" (This part is supplied loose for site assembly)

ROOF EDGE PROTECTION is a system that requires no fixings or drilling and subsequently no repair to the roof membrane. It is suitable for flat or nearly flat roofs.

ROOF EDGE PROTECTION operates on a counterbalance principle using curved PVC counterweights as the main component. A galvanised malleable iron foot supports the handrail post, this includes an integral toeplate facility which is a fundamental requirement if there is no perimeter edge upstand.

90° Elbow - **Code: 16125D**

- A means to change direction at 90° without bending the tube

Wall Flange - **Code: 16131D**

- An alternative method of finishing a run of guardrail by fixing to the wall

Sleeve Joint - **Code: 16149D**

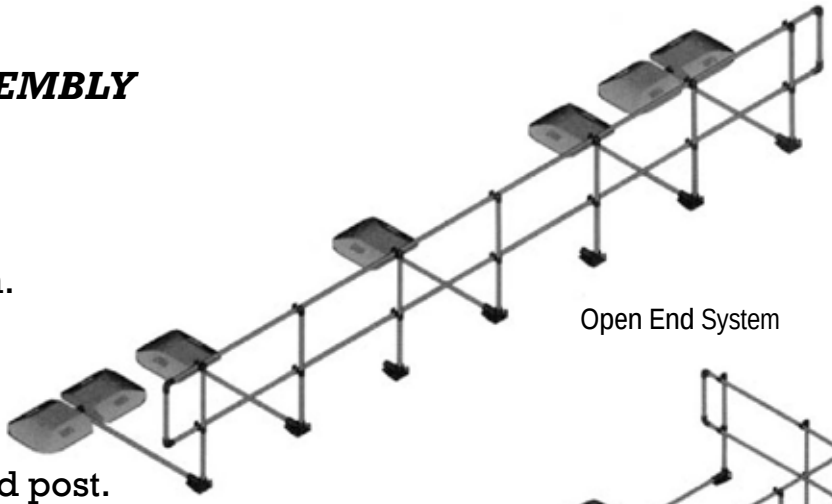
- To connect adjoining handrail sections together

WHY ROOF EDGE PROTECTION?

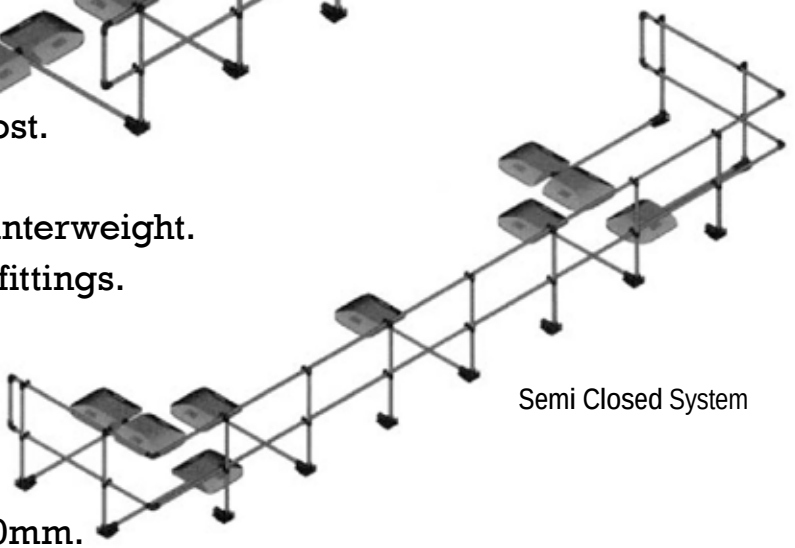
- TUV Certificate no. Z1A 04 03 50796 001
- Satisfies the CEN harmonised European standard BS EN ISO 14122-3:2001
- Base fitting allows the option of installing the uprights at up to 10° from the vertical
- Rapid installation
- 25 kgs maximum component weight
- No welding or bending required on site
- No special tools required
- Bolt on toeplate facility to comply with HSG 33
- For use on Asphalt, coated steel sheeted or concrete mineral felt roofs
- The system is effectively maintenance free with Hot Gip Galvanised to BS EN ISO 1461 malleable iron fittings, PVC counterweights and Hot Dip Galvanised tube

ROOF EDGE PROTECTION
(No fixings required)

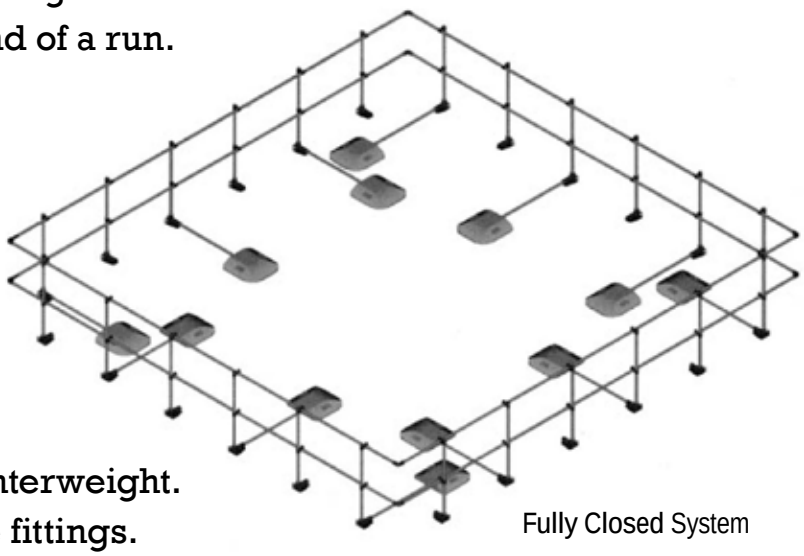
ROOF EDGE PROTECTION ASSEMBLY
Free Ends


Open End System

1 Refer to the project drawing.
2 Lay the first post at the start position.
3 Attach a run end counterweight assembly to the first post.
4 Position the second post.
5 Attach a counterweight to the second post.
6 Position the third post.
7 Position the fourth post and attach a counterweight.
8 Drop handrail and kneerail into cradle fittings.
9 Repeat the procedure until completion.
10 Check that the maximum spacing for posts is no greater than 2000mm.
11 Check that the maximum spacing for counterweights is no greater than 4000mm.
12 Check that there is a run end counterweight and adjacent counterweight at each end of a run.


Semi Closed System

Closed Installations


Fully Closed System

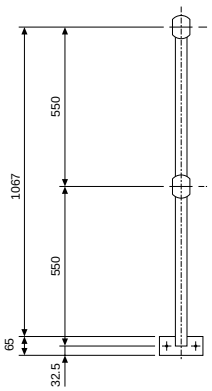
1 Refer to the project drawing.
2 Lay the first post at the start position.
3 Attach a counterweight to the first post.
4 Position the second post.
5 Position the third post and attach a counterweight.
6 Drop handrail and knee rail into cradle fittings.
7 Repeat the procedure until completion.
8 Check that the maximum spacing for posts is no greater than 2000mm.
9 Check that the maximum spacing for counterweights is no greater than 4000mm.

FULL TECHNICAL DETAILS CAN BE FOUND AT OUR WEBSITE www.fhbrundle.co.uk

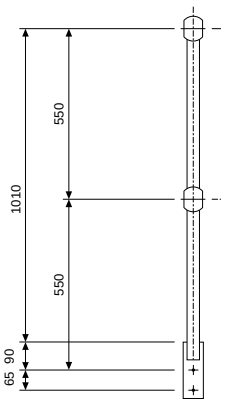
sales@brundle.com

TUBULAR HANDRAIL STANDARDS

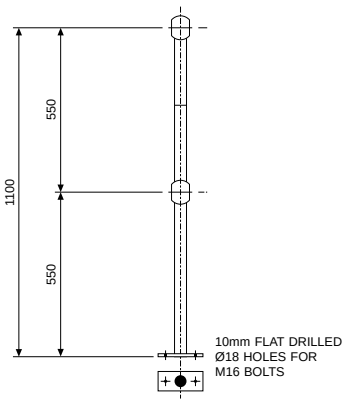
SELF COLOUR OR GALVANISED TO FIT 33.7MM O.D 42.4MM O.D & 48.3MM O.D TUBE



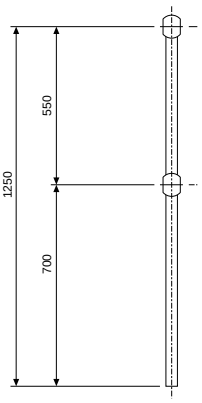
FHB 2B	Code	mm O.D
SELF COLOUR:	25012	33.7
GALVANISED:	25022	33.7
GALVANISED:	2502242	42.4
GALVANISED:	2502248	48.3



FHB 3C	Code	mm O.D
SELF COLOUR:	25013	33.7
GALVANISED:	25023	33.7
GALVANISED:	2502342	42.4
GALVANISED:	2502348	48.3



FHB 4D	Code	mm O.D
SELF COLOUR:	25014	33.7
GALVANISED:	25024	33.7
GALVANISED:	2502442	42.4
GALVANISED:	2502448	48.3



FHB 1A	Code	mm O.D
SELF COLOUR:	25011	33.7
SELF COLOUR:	2501142	42.4
SELF COLOUR:	2501148	48.3

WE CAN OFFER

Self colour vented for galvanising M8 clamping screws fitted to balls.
Dimensions shown as A & B are intended as a guide for our stocked range.
Other dimensions can be supplied, quickly, to order. State A & B dimensions and angle required.
If required for a staircase, please specify the measurements for A & B and the angle required.

LOADING TABLE FOR HANDRAIL STANDARDS

This table represents our maximum recommended pitch for each size of standard. Based upon 1100mm high standards.

HANDRAILING DIAMETER mm		33.7 O.D	42.4 O.D	48.3 O.D	33.7 O.D	42.4 O.D
SHANK DIAMETER mm		33.7 O.D	42.4 O.D	48.3 O.D	42.4 O.D	48.3 O.D
MAX RECOMMENDED SPACING 2000mm	220 N/M	1455	2000	2000	2000	2000
	360 N/M	889	1417	2000	1417	2000
	740 N/M	432	689	973	689	973

PRE-ASSEMBLED TUBE CLAMP POSTS

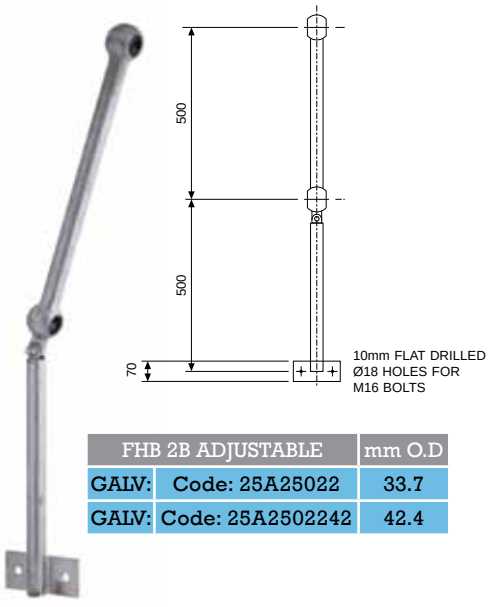
End Post
H.1100mm
Ø48.3mm
Code: 1603001D

Internal Post
H.1100mm
Ø48.3mm
Code: 1603002D

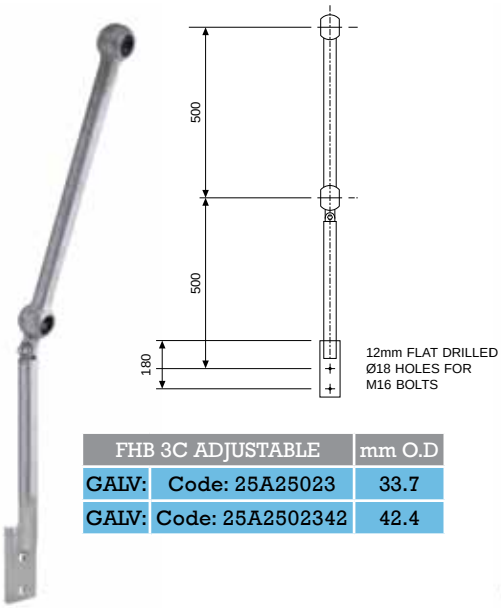
Corner Post
H.1100mm
Ø48.3mm
Code: 1603003D

ADJUSTARAIL

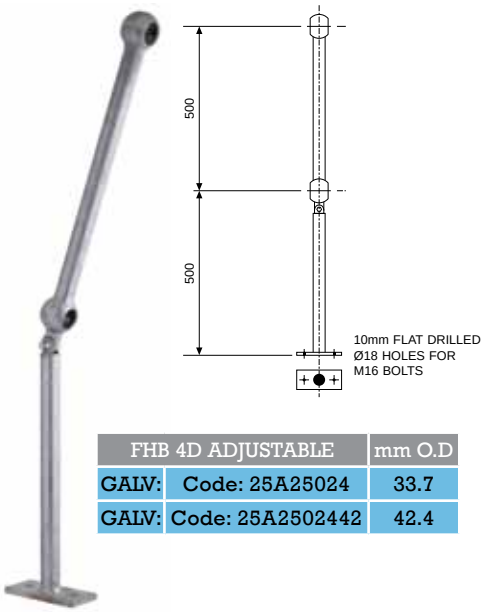
GALVANISED TO FIT 33.7MM O.D & 42.4MM O.D TUBE



FHB 2B ADJUSTABLE		mm O.D
GALV:	Code: 25A25022	33.7
GALV:	Code: 25A2502242	42.4



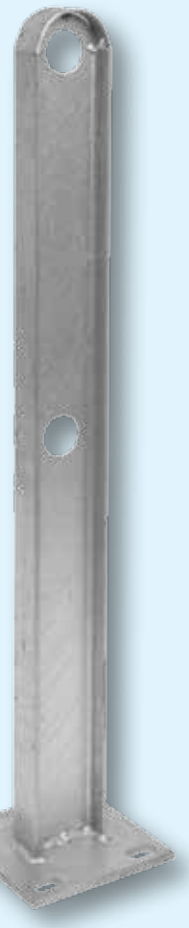
FHB 3C ADJUSTABLE		mm O.D
GALV:	Code: 25A25023	33.7
GALV:	Code: 25A2502342	42.4



FHB 4D ADJUSTABLE		mm O.D
GALV:	Code: 25A25024	33.7
GALV:	Code: 25A2502442	42.4

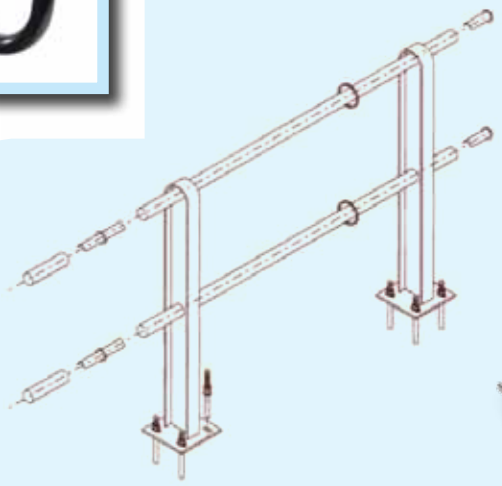
- ***Load tested***
- ***No fabrication of raked specials required***
- ***Flexible on site adjustment***
- ***Delivery from stock***

HEAVY DUTY BOLT DOWN POST



- Suits 48.3mm O.D tube
- Overall height is 1060mm
- Base plate is 200mm square
- Upright is 50 x 100mm

Code: 255RSJP1060



HEAVY DUTY GALVANISED HANDRAIL BRACKET

Code: 171168B - suits 33.7mm tube
Code: 171168C - suits 42.3mm tube
Code: 171168D - suits 48.3mm tube

sales@brundle.com

WARMAGRIP™ HANDRAILING

A "WARM TO THE TOUCH" DDA COMPLIANT HANDRAIL COMPONENT SYSTEM!

- ***45mm diameter tube***
- ***Available from stock***
- ***Load tested to 0.75 Kn***
- ***Smooth continuous handrailing***
- ***Available in grey (G) and yellow (Y)***
- ***High quality PVC coated fittings & tube***
- ***No costly thermal paint or powder coating***
- ***Versatile components system for on site flexibility***
- ***Meets the DDA obligations, Part "M" of the Building Regs***

WARMAGRIP™ HANDRAILING

A — 63.4 Degree Tee

Code	Colour	£
52A001G	Grey	4.53
52A001Y	Yellow	4.53

B — Adjustable Tee

Code	Colour	£
52A019G	Grey	13.39
52A019Y	Yellow	13.39

C — Midrail Single

Code	Colour	£
52A021G	Grey	3.39
52A021Y	Yellow	3.39

D — Adjustable Connector

Code	Colour	£
52A024G	Grey	5.42
52A024Y	Yellow	5.42

E — Base Foot Flange

Code	Colour	£
52A018G	Grey	7.45
52A018Y	Yellow	7.45

Must buy two for installation

Security Fixing Tool

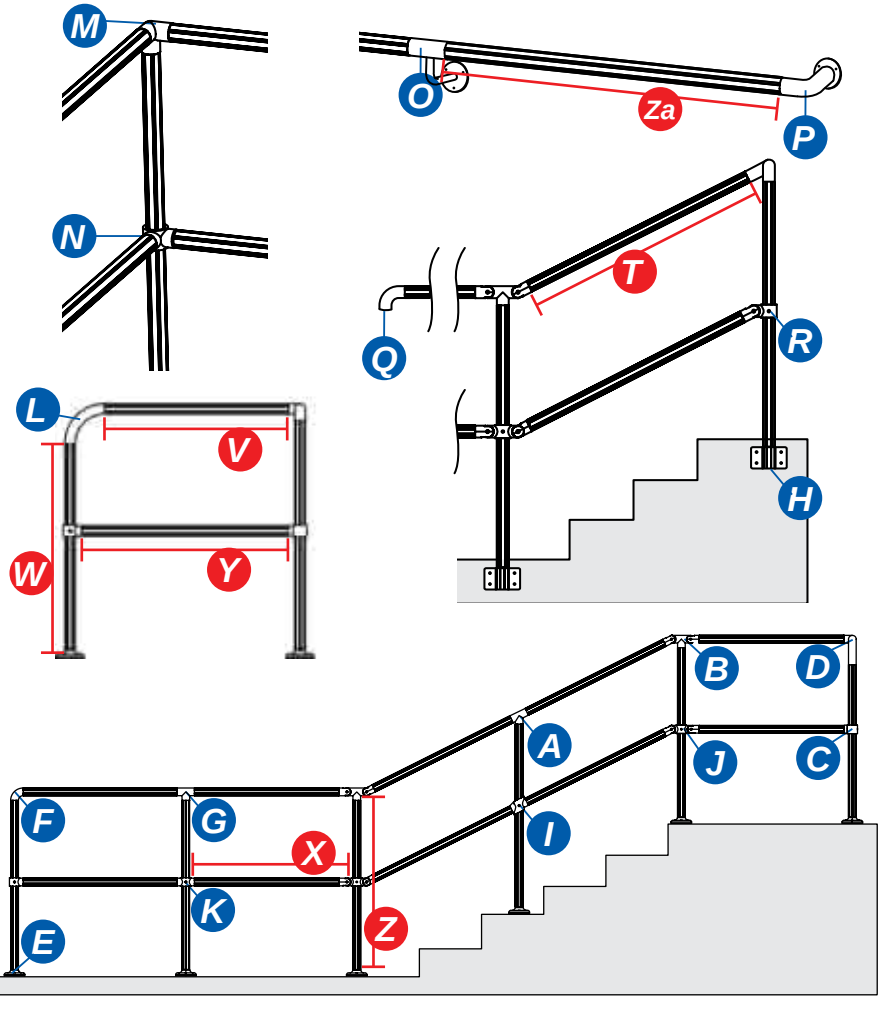
Code	£
52FSS	00.56

Steel Core Tube — 4mm Thick High Quality PVC Coating

Anti vandal fixings included with components!

TUBE

Length	Location	Yellow Code	Grey Code	£
790mm	T	52A014Y790 NEW!	52A014G790	7.81
800mm	V	52A014Y800	52A014G800	7.92
890mm	W	52A014Y890	52A014G890	8.36
845mm	X	52A014Y845	52A014G845	8.13
900mm	Y	52A014Y900	52A014G900	8.59
990mm	Z	52A014Y990	52A014G990	9.05
1400mm	Za	52A014Y1400 NEW!	52A014G1400	13.33



F — 90 Degree Elbow

Code	Colour	£
52A002G	Grey	3.39
52A002Y	Yellow	3.39

G — 90 Degree Tee

Code	Colour	£
52A022G	Grey	4.51
52A022Y	Yellow	4.51

H — Side Mount Bracket NEW!

Code	Colour	£
52A015G	Grey	8.12
52A015Y	Yellow	8.12

I — 63.4 Degree Midrail

Code	Colour	£
52A023G	Grey	4.53
52A023Y	Yellow	4.53

J — Adjustable Midrail

Code	Colour	£
52A009G	Grey	9.50
52A009Y	Yellow	9.50

K — Midrail Double

Code	Colour	£
52A020G	Grey	4.53
52A020Y	Yellow	4.53

L — Handrail End

Code	Colour	£
52A003G	Grey	4.53
52A003Y	Yellow	4.53

M — 3 Way Elbow

Code	Colour	£
52A006G	Grey	4.53
52A006Y	Yellow	4.53

N — Midrail Corner

Code	Colour	£
52A011G	Grey	4.08
52A011Y	Yellow	4.08

O — Wall Mounted Tee NEW!

Code	Colour	£
52A026G	Grey	4.99
52A026Y	Yellow	4.99

P — Wall Mounted Elbow NEW!

Code	Colour	£
52A027G	Grey	3.85
52A027Y	Yellow	3.85

Q — Scroll End NEW!

Code	Colour	£
52A025G	Grey	3.85
52A025Y	Yellow	3.85

R — Adjustable Midrail Single NEW!

Code	Colour	£
52A004G	Grey	5.41
52A004Y	Yellow	5.41

sales@brundle.com

PRO-RAILING

THE STAINLESS STEEL HANDRAIL COMPONENT SYSTEM

- ***Easy to install***
- ***Delivery from stock***
- ***1000+ Components***
- ***304 & 316 Stainless Steel***

F.H.BRUNDLE

WHOLESALE DISTRIBUTORS SINCE 1889

TOP QUALITY PRODUCTS • DELIVERY FROM STOCK

NATIONAL COVERAGE • FULL RANGE

FRIENDLY, RELIABLE SERVICE • CONSISTENTLY KEEN PRICES

FREE DELIVERY ON ORDERS OVER £150.00

SOUTH & WEST
502 Millbrook Road
Third Avenue
Millbrook
Southampton
SO15 0JX
Tel: 023 8070 3333
Fax: 023 8070 5555

LONDON & SOUTH EAST
Lamson Road
Ferry Lane North
Rainham
Essex RM13 9YY
Tel: 01708 25 35 45
Fax: 01708 25 35 50

EAST MIDLANDS
Condor Road
Quarry Hill Ind. Est
Ilkeston
DE7 4RE
Tel: 0115 930 2070
Fax: 0115 951 2455

WEST MIDLANDS
Unit 6, Dorset Road
Saltley Bus. Park
Saltley
Birmingham
B8 1BG
Tel: 0121 327 8999
Fax: 0121 327 8555

NORTH WEST
Haydock Lane
Haydock Ind. Est
St. Helens
Merseyside
WA11 9XE
Tel: 01942 86 88 88
Fax: 01942 86 88 99

SCOTLAND & THE BORDERS
Huly Hill Road
Edinburgh Interchange
Newbridge
Edinburgh
EH28 8PH
Tel: 0131 335 5999
Fax: 0131 335 5911

June 2011

www.fhbrundle.co.uk ***sales@brundle.com***